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Dated: <u>5-7-04</u>	Signature: <u>Andrea Berlo</u> (Andrea Berlo)

Docket No.: MDSP-P03-020  
(PATENT)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Duewel et al.

Examiner: Gakh, Yelena G.

Application No.: 10/602545

Confirmation No.: 1214

Filed: June 23, 2003

Art Unit: 1743

For: ENZYME/CHEMICAL REACTOR BASED  
PROTEIN PROCESSING METHOD FOR  
PROTEOMICS ANALYSIS BY MASS  
SPECTROMETRY

### INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached Form PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement has been filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)).

Those patent(s) or publication(s) which are listed on Form PTO/SB/08 are not supplied because they were previously cited by or submitted to the Office in prior application number 10/330859, filed December 26, 2002, which is relied upon in this application for an earlier filing date under 35 U.S.C. 120.

While the information and references disclosed in this Information Disclosure Statement may be "material" pursuant to 37 CFR 1.56, it is not intended to constitute an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such (37 CFR 1.97(h)).

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. Applicants further reserve the right to take appropriate action to establish the patentability of the disclosed invention over the listed documents should one or more of the documents be applied against the claims of the present application.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

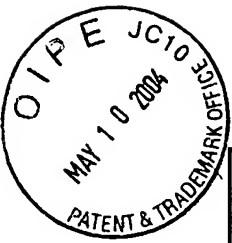
The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 18-1945, under Order No. MDSP-P03-020.

Dated: May 5, 2004

Respectfully submitted,

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Substitute for form 1449A/B/PTO

**Complete If Known**

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				Application Number	10/602545
				Filing Date	June 23, 2003
				First Named Inventor	Henry Duewel
				Art Unit	1743
				Examiner Name	Yelena G. Gakh
Sheet	1	of	2	Attorney Docket Number	MDSP-P03-020

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AA	6,245,206	06-12-2001	Anderson et al.	
	AB	6,322,970	11-27-2001	Little et al.	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
	AC	WO 00/15655	03-23-2000	Nizo Food Research		

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	AD	Azuma, H. Edible protein hydrolyzate mfr - from animal protein using proteolytic enzyme. Abstract from JP48010543B (4 April 1973).	
	AE	Conrads, T.P. et al. Quantitative Analysis of Bacterial and Mammalian Proteomics Using a Combination of Cysteine Affinity Tags and 15N-Metabolic Labeling. Anal. Chem. 73, 2132-2139 (1 May 2001).	
	AF	Figeys, D. and Pinto, D. Proteomics on a chip: Promising developments. Electrophoresis 22, 208-216 (2001).	
	AG	Gygi, S.P. et al. Quantitative analysis of complex protein mixtures using isotope-coded affinity tags. Nat. Biotech. 17, 994-999 (Oct. 1999).	
	AH	Hsieh, Y.L.F. et al. Automated Analytical System for the Examination of Protein Primary Structure. Anal. Chem. 68, 455-462 (1 Feb. 1996).	
	AI	Karas, M. and Hillenkamp, F. Laser Desorption Ionization of Proteins with Molecular Masses Exceeding 10,000 Daltons. Anal. Chem. 60, 2299-2301 (1988).	
	AJ	Kosaka, T. et al. Identification and C-Terminal Characterization of Proteins from Two-Dimensional Polyacrylamide Gels by a Combination of Isotopic Labeling and Nanoelectrospray Fourier Transform Ion Cyclotron Resonance Mass Spectrometry. Anal. Chem. 72, 1179-1185 (2000).	
	AK	Kuster, B. and Mann, M. 18O-Labeling of N-Glycosylation Sites to Improve the Identification of Gel-Separated Glycoproteins Using Peptide Mass Mapping and Database Searching. Anal. Chem. 71, 1431-1440 (1999).	
	AL	De Leenheer, A.P. and Thienpont, L.M. Mass Spectrom. Rev. 11, 249-307 (1992).	

Examiner Signature	Date Considered
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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/B/PTO				<b>Complete If Known</b>	
				Application Number	10/602545
				Filing Date	June 23, 2003
				First Named Inventor	Henry Duewel
				Art Unit	1743
				Examiner Name	Yelena G. Gakh
Sheet	2	of	2	Attorney Docket Number	MDSP-P03-020

	AM	Martinovic, S. et al. Selective incorporation of isotopically labeled amino acids for identification of intact proteins on a proteome-wide level. J. Mass Spectrom. 37, 99-107 (2002).	
	AN	Report on the Supply and Demand of 18O Enriched Water. Ad hoc committee of the North American Society for the Study of Obesity (21 Jan. 1999).	
	AO	Sechi, S. A method to identify and simultaneously determine the relative quantities of proteins isolated by gel electrophoresis. Rapid Comm. Mass Spectrom. 16, 1416-1424 (2002).	
	AP	Stewart, I.I. et al. 18O Labeling: a tool for proteomics. Rapid Comm. Mass Spectrom. 15, 2456-2465 (2001).	
	AQ	Wang, Y.K. et al. Inverse 18O Labeling Mass Spectrometry for the Rapid Identification of Marker/Target Proteins. Anal. Chem. 73, 3742-3750 (2001).	
	AR	Yao, X. et al. Proteolytic 18O Labeling for Comparative Proteomics: Model Studies with Two Serotypes of Adenovirus. Anal. Chem. 73, 2836-2842 (2001).	
	AS	Zhang, X. and Huang, S. Single step on-column frit making for capillary high-performance liquid chromatography using sol-gel technology. J. Chromatography A 910, 13-18 (2001).	
	AT	Qian, X. et al. Direct Analysis of the Products of Sequential Cleavages of Peptides and Proteins Affinity-Bound to Immobilized Metal Ion Beads by Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry. Analytical Biochem. 274, 174-180 (1999).	
	AU	Zhou, W. et al. Detection and Sequencing of Phosphopeptides Affinity Bound to Immobilized Metal Ion Beads by Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry. Am. Soc. Mass Spectrom. 11(4), 273-282 (April 2000).	
	AV	Woods, A.S. et al. Simplified High-Sensitivity Sequencing of a Major Histocompatibility Complex Class I-Associated Immunoreactive Peptide Using Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry. Anal. Biochem. 226, 15-25 (1995).	
	AW	Schnolzer, M. et al. Protease-catalyzed incorporation of 18O into peptide fragments and its application for protein sequencing by electrospray and matrix-assisted laser desorption/ionization mass spectrometry. Electrophoresis 17, 945-953 (1996).	
	AX	Nuwaysir, L.M. and Stults, J.T. Electrospray Ionization Mass Spectrometry of Phosphopeptides Isolated by On-Line Immobilized Metal-Ion Affinity Chromatography. J. Am. Soc. Mass Spectrom. 4, 662-669 (1993).	
	AY	Yates, J.R. III Mass Spectrometry and the Age of the Proteome. J. Mass Spectrometry 33, 1-19 (1998).	
	AZ	Zhang, Z. et al. Multiple separations facilitate identification of protein variants by mass spectrometry. Proteomics 1, 1001-1009 (2001).	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature		Date Considered	
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Via: First Class Mail	Atty Dkt No.: MDSP-P03-020
Inventor: Duewel et al.	
Application No.: 10/602545	Filing Date: June 23, 2003
Title: ENZYME/CHEMICAL REACTOR BASED PROTEIN PROCESSING METHOD FOR PROTEOMICS ANALYSIS BY MASS SPECTROMETRY	

**Documents Filed:**  
Information Disclosure Statement (2 pages)

Form PTO/SB/08 (2 pages)

Copies of references (AA-AZ)

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Date: May 7, 2004